

ABSTRACT OF THE DISCLOSURE

An organic electro-luminescent display (OELD) device for processing multi-color gray-scale data, comprises a four-color converting part for converting primary RGB gray-scale data into compensated RGBW gray-scale data by adding white gray-scale data to the primary RGB gray-scale data, a data driving part for processing the compensated RGBW gray-scale data provided from the four-color converting part to generate four-color signals in an analog type, a scan driving part for generating scan signals in sequence, and an OELD panel for emitting light with a color in response to the four-color signals from the data driving part and the scan signals from the scan driving part. The four-color converting part includes a gamma converting part for converting the primary RGB gray-scale data, a white extracting part for extracting a white color component from the gamma-converted RGB data, a data determining part for generating four-color RGBW data by subtracting the white color component from the gamma-converted RGB data and adding the white gray-scale data to the gamma-converted RGB data, and a reverse-gamma converting part for reverse-gamma converting the four-color RGBW data.